

IN THE CLAIMS:

1. (Currently amended) An imaging module for a still digital image capturing device, comprising:

an electronic imaging sensor device comprising a plurality of pixels ~~elements~~; and
an electronically actuatable shutter device comprising a plurality of individually addressable and actuatable shutter elements, each of said plurality of individually addressable shutter elements substantially corresponding to at least one of said plurality of pixels ~~elements~~;

a storage medium that stores a plurality of shutter exposure patterns, each shutter exposure pattern defining a predefined group of shutter elements to be actuated for illumination of said imaging sensor device; and

a controller that allows a user to select one of said stored plurality of shutter exposure patterns, and which applies a selected shutter exposure pattern to said shutter device to allow light reflected from an object whose image is to be captured to illuminate said imaging sensor through said selected shutter exposure pattern.

2. (Original) The apparatus of claim 1, wherein said imaging sensor device comprises a two-dimensional array of pixel elements and said shutter device comprises a LCD element comprising a two-dimensional array of individually addressable and actuatable shutter elements corresponding to said two-dimensional array of pixel elements.

3. (Currently amended) ~~The apparatus of claim 1, wherein said shutter device~~ An imaging module for a digital still image capturing device, comprises a LCD element comprising a two-dimensional array of individually addressable and actuatable shutter elements and an electronic imaging sensor device having a two-dimensional array of pixel sensors, wherein a pixel unit of said imaging module comprises:

a first combination polarizing shutter element and pixel ~~element~~ sensor, with said first polarizing shutter element being of a first polarization orientation; and

a second combination polarizing shutter element and pixel ~~element~~ sensor, with said second polarizing shutter element being of a second polarization orientation that is substantially orthogonal to said first polarization orientation; wherein said pixel unit is

individually addressable and actuatable such that each pixel unit receives light from an object being imaged through both said first polarizing shutter element and said second polarizing shutter element to obtain a substantially non-polarized image.

4. (Original) The apparatus of claim 1, wherein said shutter device comprises a microelectromechanical shutter element comprising a two-dimensional array of individually addressable and actuatable shutter elements.

5. (Original) The apparatus of claim 1, further comprising a memory including an address storage capable of storing one or more shutter element addresses.

6. (Cancelled).

7. (Currently amended) The apparatus of claim 1, ~~further comprising a memory including a pattern storage capable of storing one or more shuttering~~ wherein at least one of said shutter exposure patterns ~~that~~ specify a plurality of exposure time periods corresponding to a plurality of shutter elements to be actuated.

8. (Original) The apparatus of claim 1, wherein said shutter device is formed on and is substantially co-planar with said imaging sensor device.

9. (Original) The apparatus of claim 1, wherein said shutter device is assembled with and substantially co-planar with said imaging sensor device.

10. (Cancelled)

11. (Cancelled)

12. (Currently amended) The apparatus of claim ~~40~~ 3, wherein said shutter device comprises a microelectromechanical shutter element comprising a two-dimensional array of individually addressable shutter elements.

13. (Currently amended) The apparatus of claim ~~40~~ 3, further comprising a memory including an address storage capable of storing one or more shutter element addresses.

14. (Currently amended) The apparatus of claim ~~40~~ 3, further comprising a memory including a pattern storage capable of storing one or more shuttering patterns that specify a plurality of shutter addresses of shutter elements to be actuated.

15. (Currently amended) The apparatus of claim ~~40~~ 3, further comprising a memory including a pattern storage capable of storing one or more shuttering patterns that specify a plurality of exposure times corresponding to a plurality of shutter elements to be actuated.

16. (Currently amended) A light shuttering method for a still image capturing device, comprising the steps of:

providing an electronic imaging sensor device comprising a plurality of pixel elements; and

providing an electronically actuated shutter device comprising a plurality of individually addressable and actuatable shutter elements, each shutter element substantially corresponding to at least one of said plurality of pixel elements;

providing a storage medium that stores a plurality of shutter exposure patterns, each shutter exposure pattern defining a predefined group of shutter elements to be actuated for illumination of said imaging sensor device; and

providing a controller that allows a user to select one of said stored plurality of shutter exposure patterns, and which applies a selected shutter exposure pattern to said shutter device to allow light reflected from an object whose image is to be captured to illuminate said imaging sensor through said selected shutter exposure pattern.

17. (Original) The method of claim 16, wherein the providing said shutter device step comprises forming said shutter device on said imaging sensor device.

18. (Original) The method of claim 16, wherein the providing said shutter device step comprises providing a two-dimensional array of individually addressable shutter elements, wherein a pixel unit of said imaging sensor device is individually addressable, wherein a first shutter element of said pixel unit polarizes light according to a first polarization orientation and a second shutter element of said pixel unit polarizes light according to a second polarization orientation that is substantially orthogonal to said first polarization orientation, and wherein the method provides a substantially non-polarized light to said imaging sensor device.

19. (Original) The method of claim 16, further including a step of storing a shutter actuation pattern that specifies a plurality of shutter elements to be actuated during an image capture.

20. (Original) The method of claim 16, further including a step of storing a shutter actuation pattern that specifies a plurality of exposure time periods for a corresponding plurality of shutter elements.